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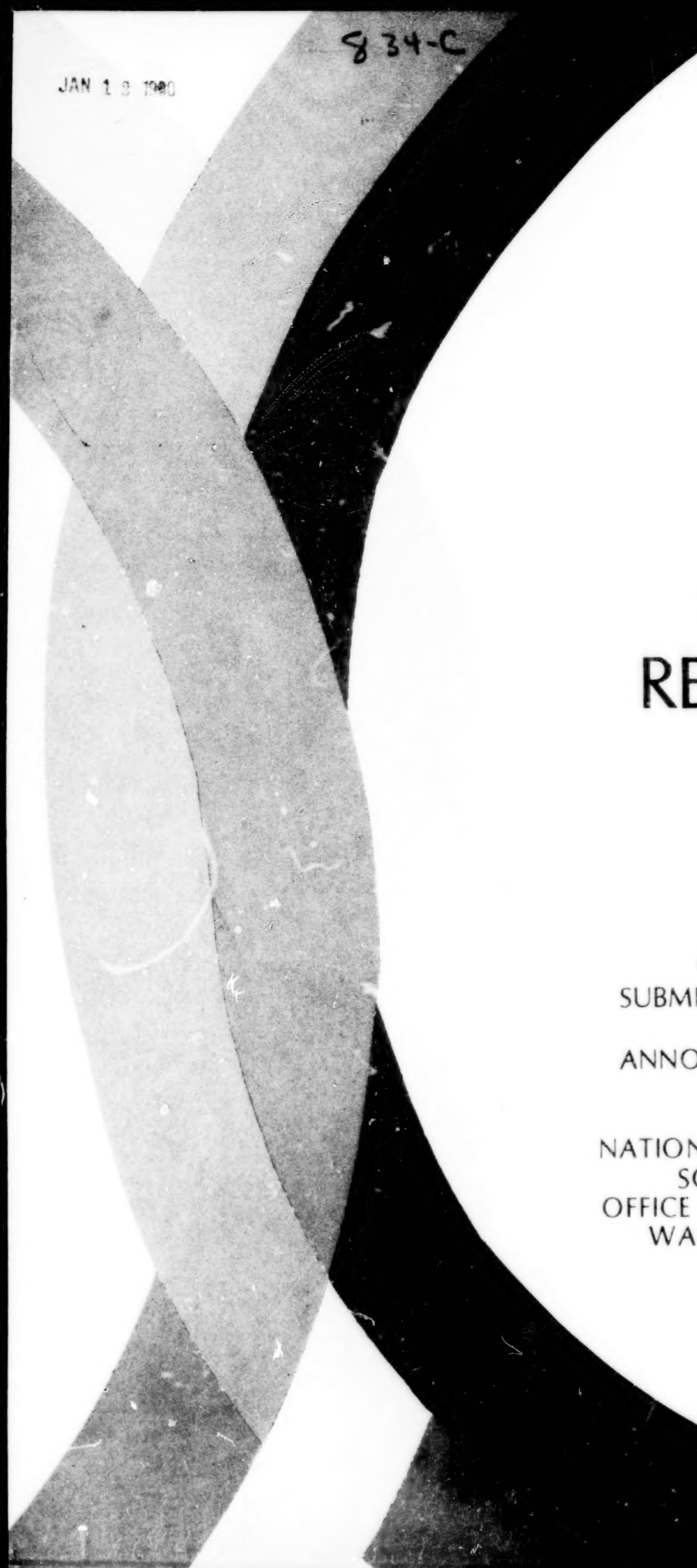

PUBLIC SERVICE SCIENCE RESIDENCIES

CLOSING DATE FOR
SUBMISSION OF APPLICATIONS:
JANUARY 15, 1980
ANNOUNCEMENT OF AWARDS:
MAY 1980

NATIONAL SCIENCE FOUNDATION
SCIENCE FOR CITIZENS
OFFICE OF SCIENCE AND SOCIETY
WASHINGTON, D.C. 20550

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Office of Science and Society

The National Science Foundation has established the Office of Science and Society (OSS) to respond to the problems arising out of the changing relationship between the scientific and technological communities and the larger society. The general purpose of the Office is to bring about greater understanding of this relationship and to help in solving important ethical and social issues connected with science and technology.

In pursuing this purpose the Foundation seeks to respond to such questions as:

- How can the work of scientists and engineers, and the implications and consequences of their work, be clarified for the public?
- How can scientists and other citizens participate effectively in deciding issues of public policy that have important scientific and technological components?
- How and by whom are decisions made about the direction of scientific activities and the resources invested in them, and how should these decisions be made in a democratic society? Against what ethical and social standards can and should such decisions be judged?

Each program of the Office of Science and Society approaches these questions in different ways. The primary focus of the Public Understanding of Science (PUOS) program is on improving the content and processes of communication between the scientific and the nonscientific communities. The primary focus of the Ethics and Values in Science and Technology (EVIST) program is on identifying, understanding, and helping to resolve the ethical and social dilemmas that arise in the work of scientists and engineers and in their interaction with citizens affected by their work. The primary purpose of the Science for Citizens (SFC) program is to increase the knowledgeable participation of both scientists and nonscientists in the resolution of major public issues involving science and technology.

All of these programs support the efforts of scientists, engineers, and other citizens in seeking to achieve the goals of the NSF Science Education Directorate:

- To increase for all citizens, of all ages and in all walks of life, their basic understanding of science and its significance for the quality of their lives, and
- To respond to the special needs of those groups in our society that ordinarily lack access to scientific and technical information: minorities, women, the aged, the handicapped, and those with little formal education.

For further information about these programs, write to:

Office of Science and Society
National Science Foundation
Washington, D.C. 20550

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PUBLIC SERVICE SCIENCE RESIDENCIES

GENERAL DESCRIPTION

The Science for Citizens program of the National Science Foundation provides support for activities which:

- encourage scientists and engineers to participate in public activities aimed at the resolution of policy issues with significant scientific and technological aspects, and
- provide scientific and technical expertise to citizens and citizen groups so that they can better understand and participate in decisions on policy issues involving science and technology.

Public Service Science Residencies are intended to allow working scientists and engineers to undertake up to a year's activities in association with organizations of citizens in need of their expertise. In conjunction with their host organizations, residents must design a specific project or program of activities directed at raising the level of public understanding and debate on policy issues involving science and technology. Up to 30 Public Service Science Residencies will be awarded in May 1980.

Residents' activities may be undertaken on a part-time or full-time basis. The activities should make specific use of the residents' scientific and technical expertise. They should help the public, as well as the particular constituencies of the host organization, to reach informed decisions on science-related policy issues that have a direct impact on their lives. In particular, residents' activities should reach out to citizens and citizen groups that normally lack access to scientific and technical expertise and information. The results of the activities should be broadly and impartially disseminated, so as to reach the widest interested audience.

Applications may be submitted either by individuals who have identified an appropriate host organization, or by organizations that have identified a particular scientist or engineer desiring to serve as a resident. In either case applications should be submitted for a specific individual, whose qualifications will be evaluated as part of the review process. Organizations may wish to get in touch with local colleges and universities, professional societies, and other sources of scientific expertise to identify potential candidates.

Appropriate host organizations include community groups, public interest organizations, professional or trade associations and trade unions, units of state and local government, educational institutions (such as a public library, museum, or college with a community outreach program), or other organizations which: (1) are operated primarily for scientific, educational, service, charitable, or similar purposes in the public interest; (2) are not organized primarily for profit; and (3) use all income exceeding costs to maintain, improve and/or expand their operations. Applications from or on behalf of persons proposing to continue their association with an office or program in which they are currently employed will not be accepted.

Whether submitted by an individual or an organization, the project plan should be developed with the cooperation of both parties in order to insure that: (1) the resident's skills and knowledge are suited to the project; (2) the project meets the needs of the host organization and its constituencies; and (3) adequate dissemination and follow-up activities will be undertaken.

RESIDENCY ACTIVITIES

Appropriate projects for residents to undertake include (but are not limited to):

- short-term, small-scale research on specific scientific problems associated with current issues;
- data collection, compilation, and dissemination;
- analysis of scientific and technical documents;
- informal science education activities for adults, such as seminars, workshops, and public lectures;
- development of handbooks, newspaper articles, TV and radio programs, museum exhibits, etc.; and

- expert advice addressed to the scientific needs of citizens and their organizations and representatives.

Residents are expected to undertake the independent and objective appraisal, development, interpretation, or dissemination of scientific facts, conclusions, and options relevant to public policy issues in which science and technology play an important part. Applications must show how residents will use their specific scientific and technical expertise during their tenure, emphasizing the relevance of their scientific qualifications to the issues addressed in the proposal.

Residents' work is expected to meet high standards of scientific objectivity and merit. There should be a clear delineation between their scientific statements and work and the policy statements or politically-oriented activities that may be undertaken by the host organization. Although a host may base its policy statements on work produced by a resident, the resident should not make policy statements on behalf of the host and should not organize activities that advocate a particular resolution of an issue.

Materials and educational projects developed by residents must be balanced so as to present fairly all important points of view on the issues being discussed. All materials produced by residents during their tenure are expected to be made widely available to the public; applications must show that the results of the proposed activity will be disseminated so as to reach all parties with an interest in the issues in question. An acknowledgment of NSF support and a disclaimer must appear in all publications and printed materials.

Priority of consideration will be given to applications in which the proposed activities are intended to reach groups that normally do not have access to scientific expertise and information: minority groups, the poor, those with little formal education, and the organizations that represent them and work to meet their needs. Applications should identify the groups toward which the activities are addressed, specifying the audience that is expected to participate in or benefit from them.

Applications should provide for the evaluation of the activities, during and after the residency, to determine the effectiveness of the resident and the host organization in meeting their stated objectives. Where appropriate, follow-up activities to be undertaken by the host should be described. The application should outline any plans by the host organization to continue the outreach and dissemination activities initiated as part of the residency.

Project plans are expected to integrate both scientific and policy components. Proposals will not be considered that involve expertise that is primarily legal or political rather than scientific in nature; are primarily directed at community organizing activities; are limited to technology transfer activities; or are intended to promote a particular technology or provide support for already-determined policy positions of individuals or organizations. The development of scientific conclusions that may be used to support a particular policy is an eligible activity, but an application primarily directed at helping an organization develop its own policies will not be favorably considered. Projects will not be considered whose primary purpose is to engage in private study or writing, to market particular products, or to develop curricular materials for use in formal educational instruction.

In accordance with the Joint Explanatory Statement of the Committee of Conference of the U.S. Congress on the NSF Authorization Act for 1978, no awards will be made to applicants requesting support solely or principally for the purpose of intervention in any judicial or administrative proceeding by contesting any action or decision before any court of law or Federal, State or local executive agency or instrumentality. Awards will not be made to applicants who intend to associate with host organizations solely or principally engaged in such activities unless those applicants clearly assure the objective nature of their research and their intention to disseminate their results equally to all parties. Awards will not be made to applicants who intend to associate with host organizations that have been denied tax exemption under the provisions of the U.S. Internal Revenue Code or any comparable state code.

ELIGIBILITY

Public Service Science Residencies will be offered to persons with appropriate qualifications in the mathematical, physical, biological, medical, engineering, or social sciences (including the history and philosophy of science), or in interdisciplinary fields (e.g., environmental sciences, science education).

Residencies will be offered only to persons who have earned, or will have earned by the beginning of their tenure, a Ph.D. or the equivalent final professional degree in their field (e.g., D.P.H., Ed.D., M.D.), or have acquired comparable professional experience and qualifications in an eligible field. Applicants who have just received a Ph.D. should provide evidence of additional professional experience wherever possible. Master's level applicants will not be granted awards unless they demonstrate that their professional experience qualifies them to compete with applicants holding Ph.D. or equivalent degrees.

TENURE

Residencies may be undertaken on a full-time or part-time basis. A full-time commitment is interpreted to mean approximately 40 hours or more per week. Full-time residents are not permitted to accept or continue other employment which requires a full-time commitment. Applicants who propose a part-time residency must commit a minimum average of 10 hours per week to the activity.

The tenure of a full-time resident or a part-time resident working more than half-time may range from 3 to 12 months; the tenure of a resident working half-time or less may range from 6 to 24 months. The residency may be interrupted provided that no single period of tenure is less than 3 months.

Recipients of awards must begin their tenure within 16 months and must complete their tenure within 30 months after the award is made.

Exceptions to these policies may be made by the Foundation if sufficient reason can be shown.

STIPENDS AND ALLOWANCES

The offer of an award in this program is in the form of a formal grant to the individual applicant. The Foundation will provide a stipend and a travel allowance to the resident, and an activities support allowance to the host organization. Additional information on stipends and allowances will be sent to residents and their host organizations at the time awards are made.

Stipend. Stipends will be prorated according to the length of tenure. The minimum stipend granted to a full-time resident is $18,000 per year, or $1,500 per month. For those whose current income is in excess of $18,000, the Foundation will meet the applicant's full-time salary for the academic year 1979-80 (or equivalent for non-academics) as of January 15, 1980, up to a maximum of $27,000 per year, or $2,250 per month. Applicants may, if they choose, include their 1979 summer salary in computing their stipend. Stipends for part-time residents will be prorated on the full-time scale.

If the resident is entitled to receive sabbatical salary, leave pay, or compensation through some other arrangement, the stipend will be reduced accordingly. In no case will the Foundation award a total stipend of less than $1,200 to a full-time resident. Residents whose annual income exceeds the Foundation's maximum stipend of $27,000 will be permitted to accept supplementary pay from their host organization or other source to bring their total income during tenure up to their income level as of January 15, 1980. Applicants requesting a stipend to meet their current income will be required to provide verification of annual base pay and available pay from their home institution; self-employed applicants will be required to provide evidence of their current income level.

Travel Allowance. An applicant may request a travel allowance to aid in defraying travel costs to relocate at the host organization, if reimbursement is not received from other sources. The travel allowance will be based on the mileage from the applicant's residence as of January 15, 1980, to the host organization and return, unless the actual distance traveled is shorter. No travel allowance will be paid if the distance between the two points is less than 200 miles. If the resident associates with more than one host organization during tenure, the travel allowance will be calculated on the distance to the farthest institution. Only one round-trip travel allowance will be paid regardless of the number of tenure segments. The travel allowance will be computed for the most direct route, as determined from standard mileage tables, at the rate of 8 cents per mile for the resident, 4 cents per mile for an accompanying spouse, and 3 cents per mile for each of up to two accompanying dependent children.

Applicants may also request funds for travel to be conducted as an integral part of their residency activities. The proposal should contain full justification for the use of travel funds; based on the justification provided, the NSF may determine to provide a reduced allowance. A maximum of $500 will be made available for this purpose.

Activities Support Allowance. On behalf of the resident the Foundation will make available to the host organization an activities support allowance not to exceed $3,000 per year ($250 per month). This allowance will be provided by the Foundation directly to the host organization, to defray the costs of the resident's activities program; instructions for requesting this allowance will be sent to the resident and host organization at the time of award. This allowance should not be used to support the writing, printing, or dissemination of materials that are intended primarily to promulgate the policy positions of the host organization. The project plan must contain full justification for the amount requested; based on the justification provided, the NSF may determine to provide a reduced allowance.

REPORTS

Residents are required to submit quarterly reports and a final report to the Foundation. Quarterly reports, which must be submitted within 15 days of completion of each 90-day period of tenure, may be brief and informal summaries of activities and accomplishments. Final reports, which must be submitted within 30 days of completion of tenure, are intended to help the Foundation and the public evaluate the success of individual residency activities and the program as a whole, and should contain full and reflective summaries of residency experiences. Host organizations are also asked to submit final reports and to indicate their willingness to do so at the time the application is submitted.

All materials produced by residents during their tenure are considered public documents and should be disseminated as widely as possible. Residents must submit to the Foundation all materials or reports prepared for the host organization, as well as copies of any publications produced during the tenure period.

Additional information on reports will be sent to residents and their host organizations at the time awards are made.

CONDITIONS OF APPOINTMENT

Since applications are considered to be joint submissions by the resident and the host organization, and are reviewed as such, awards will be cancelled if either the resident or the host organization withdraw prior to the start of the residency.

Residents are expected to adhere to the projects for which their grants are awarded. A change in the project plan, tenure, or time commitment must receive the prior approval of the National Science Foundation.

Residencies are subject to termination if unresolvable problems arise in achieving their objectives or if the approved project is discontinued prior to its completion. Termination action may be initiated by the resident, the host organization, or the National Science Foundation.

This Announcement sets forth the basic conditions of appointment. In addition, residency awards are made subject to the provisions in the publication entitled *Information for Public Service Science Residents and Host Organizations* (SE 80-61G) (and any subsequent amendments thereto), which will be mailed to successful applicants and their host organizations.

EVALUATION AND SELECTION

The evaluation of applications will be based on (1) the academic and professional abilities of the proposed resident, as evidenced by academic and professional history, letters of reference, and other indications of scientific and public service activities and competence, and (2) the potential contribution of the proposed activities to enhancing the level of public understanding and helping citizens to reach informed decisions on matters of public concern that involve science and technology, as evidenced by the proposals and the statements of the host organizations.

Applications will be screened initially by SFC program staff for completeness and conformity with program requirements and then will be submitted to peer review. Each review panel will consist of scientists and nonscientists knowledgeable about programs in which citizens and scientists work together on science-related policy issues. Panel members will also be selected to insure representation of appropriate scientific disciplines and of different points of view about the kinds of issues discussed in the applications. A copy of the criteria that will be used in reviewing applications appears in Appendix A.

APPLICATION MATERIALS

To be eligible for consideration an application must be submitted on forms provided by the Foundation. Application forms and instructions may be obtained from:

Public Service Science Residencies
Science for Citizens
Office of Science and Society
National Science Foundation
Washington, D.C. 20550

Application materials include a postcard that should be completed by persons who intend to submit an application for a residency. Applicants should return this postcard to the Foundation by December 15, 1979.

The deadline for filing applications is January 15, 1980. Applications received after that date may be excluded from the evaluation process. The Foundation expects to notify all applicants of the disposition of their applications in May 1980.

APPENDIX A

CRITERIA FOR REVIEWING APPLICATIONS

Public Service Science Residencies are intended to encourage scientists and engineers to participate in public activities aimed at the resolution of policy issues with significant scientific and technical aspects, and to provide scientific and technical expertise to citizens and citizen groups so that they can better understand and participate in decisions on policy issues involving science and technology.

Each eligible application will be reviewed by a panel consisting of scientists and nonscientists knowledgeable about programs in which citizens and scientists work together on science-related policy issues. The general criteria listed below will be supplied to the panelists to guide them in evaluating and ranking applications. In making awards, the Foundation will try to achieve balance and diversity among applications of substantially equal merit by considering type and focus of activity, type of host organization, geographical location, and sex and minority status of the applicant.

1. *Rationale.* Are the project objectives clear and relevant to SFC goals as stated? Does the project plan adequately identify scientific problems and related policy issues of concern to specific communities? Has the applicant demonstrated familiarity with the scientific and technological aspects and social implications of the issues? Does the need for the project justify the investment of Federal funds?
2. *Plan of Work and Evaluation.* Does the project plan offer a coherent and well-formulated plan of attack? Is the proposed approach practical and effective? Does the plan demonstrate familiarity with relevant work in the geographic and subject areas of the proposed project? Is the applicant's time commitment to the project adequate? Are the management and dissemination plans well conceived? Are effective procedures proposed for assessing the success of the project?
3. *Applicant.* Does the applicant have adequate academic and professional qualifications in appropriate fields of science and technology? Is there evidence that the applicant can communicate effectively with nonscientists, to formulate problems and present conclusions in ways that will help raise the level of public understanding and debate?
4. *Host Organization.* Does the host organization normally lack access to scientific expertise? Would the host be able to support these activities itself? Will it make effective use of the applicant's activities? Is the host organization prepared to undertake appropriate dissemination and follow-up activities or initiate related activities upon completion of the residency?
5. *Audience.* Are the groups and constituencies that will be affected by the project clearly identified? Are the activities directed at groups that normally lack access to scientific and technical assistance, e.g., minority groups, the poor, those with little formal education?
6. *Balance.* Does the applicant exhibit scientific objectivity and independence of mind? Is the project free from any explicit or implicit attempt to support an already-determined policy position? Is there provision for broad and impartial dissemination of results to all interested parties?
7. *Impact.* Is there evidence that the project is needed by the groups addressed and will be useful to them? Will the project explore innovative approaches that might be transferred or adapted to other settings?
8. *Costs.* Are the requests for project-related travel and activities support allowances reasonable?
9. *Overall Quality.* Taking the project as a whole, does it have high intrinsic merit? Are the proposed activities exciting and imaginatively conceived? Are they likely to be executed flexibly and responsively? Will the results significantly advance SFC objectives?

APPENDIX B

Summaries of Selected Public Service Science Residencies

The following summaries describe some of the Public Service Science Residencies that have been awarded. Each of them has only some of the characteristics we seek in this kind of activity, and none of them should be treated as a model. They are intended only to suggest the range of activities which receive support, and to help you in preparing your project plan.

Dr. Roger W. Armstrong
Physical Chemistry

Bureau of Environmental Protection
New York State Department of Environmental Conservation
Albany, NY

Fish in various NY state waters contain levels of PCB, mirex, mercury and/or cadmium high enough to warrant concern about their consumption. The development and dissemination of health advisories on these risks has been somewhat haphazard in the past, and the scientific basis for these advisories is weak at best. This project is designed to assemble a more scientific basis for making health assessments in the future and for conveying appropriate warnings to persons or groups who are most likely at risk. The major objectives of this project are:

I. To assemble, compare and evaluate different methods used to assess the risks of consuming fish contaminated with PCB, mirex, mercury and cadmium.
II. To ascertain patterns of consumption of these contaminated fish, using available literature and government studies.
III. To evaluate the accumulated data on actual levels of fish contamination.
IV. To integrate the above information in a risk assessment that will help to identify persons or groups at risk.

In addition to a technical report, findings will be disseminated to the identified groups by means of public releases and reports prepared in close cooperation with the public information staff of the NY State Department of Environmental Conservation.

Dr. Edward M. Bergman
Urban & Regional Planning

North Carolina Center for Public Policy Research
Raleigh, NC

Workers and other citizens need to become partners in local economic development planning to meet the problems of distressed community economies. To provide the necessary insight into the process of local economic development and the organizations that routinely plan for economic development, the resident will carry out the following tasks:

A. Estimate the probable impacts of changing tariffs, trade and production technology on the industrial structure of North Carolina communities and their populations.
B. Survey a sample of local economic development organizations in the most vulnerable local economies to estimate how such organizations rely upon planning technicians and professionals, the knowledge and awareness of policy-makers concerning the role of technology in economic development, and the nature and involvement of citizens in formulating economic development policies.
C. Prepare a guide to citizen partnership in local economic development policy-making.

Dr. Roy P. Craig — Durango Chamber of Commerce
Physical Chemistry — Durango, CO

The purpose of the project is to investigate the scientific bases of local and regional energy issues, and to share the information developed with the local and national public through articles in local and regional newspapers and in national magazines. The resident will, in cooperation with the host organization, sponsor public discussions of information developed and of its significance to the public and to local and broader energy policies.

The resident's tenure will be divided into three segments, each of which will be focused on an energy-related issue of particular concern to the Durango Chamber of Commerce and the community of which it is a part.

The topics to be addressed are:

1) Uranium mill tailings piles near residential communities in the Durango area.
2) The energy-water relationshp in the semi-arid and arid West.
3) Impacts of energy shortages on the local community and potential applications of alternate energy sources at the local level.

Dr. H. Richard Obermanns — Heights Community Congress
Political Science — Cleveland Heights, OH

A substantial deficit of information currently exists about the pace and consequences of racial integration of housing in urban areas, and about the effectiveness of techniques currently being used to maintain stable racially integrated neighborhoods, particularly in the suburbs. Utilizing recent population estimates for racial composition and racial change, a set of Midwestern neighborhoods will be identified for study. Local community groups will be asked to help select and obtain aggregate data on various social indicators that would help assess the quality of life in integrating communities, before and during integration and compared to the region as a whole. Local public or private programs intended to maintain stable or gradual integration will be described and their effectiveness assessed in a workbook format. The findings on the neighborhoods and their programs should be of value to community leaders and the general public who wish to compare popular expectations with empirical data about how integration proceeds, or who wish to know how to maintain stable integration of housing once it exits.

Dr. David A. Schwartz — California Public Interest Research Group
Medicine — San Diego, CA

The objectives of this project are to define some of the health hazards that are associated with chronic exposure to pesticides and to develop an educational program attempting to inform the farm workers of the risks they face, provide alternatives to help improve their overall health, and supply necessary information to affect public policy regarding the use of pesticides. The area of study will be Imperial County, which in 1976 was the leading county in California in the use of restricted pesticides. The target population will be the farm worker community, whose health related problems are accentuated by the existing cultural, economic, educational, and linguistic barriers. The objectives of the project will be accomplished in four stages: (1) literature review focusing on the teratogenicity of pesticides and the association of long term exposure to pesticides with the development of chronic disease; (2) review of the major pesticides used in Imperial County over the past 20 years; (3) review of the last 5 years of Imperial County death/birth certificates, making comparisons both within Imperial County and between Imperial County and California State; and (4) development of an educational packet to be distributed to farm workers' unions, community clinics in Imperial County, community interest groups and appropriate legislative bodies. The California Public Interest Research Group will help with data collection, publicity, and dissemination/implementation of the educational material.

Dr. John P. Wehrenberg — Fort Belknap Community Council
Geology — Harlem, MT

Fort Belknap is one of the poorest Indian reservations in the northwestern part of the country. In large part this is due to the poor agricultural quality of the land and apparent lack of easily extracted mineral resources. The resident will undertake to: (1) collect the available information on Tribal mineral resources and prepare a report; (2) physically inspect the reservation lands to learn their geology first-hand so as to determine the best approaches for future resource planning; (3) coordinate scientific projects done by geologic interns which relate to the assessment of natural resources; (4) conduct a radiometric survey of the major roads on the reservation as a base line uranium feasibility study; (5) provide information gathered during the residency to the Tribal Council and to interested agencies; and (6) provide advice to the Tribal Council.

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